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Cotton Fiber and Processing Test Results

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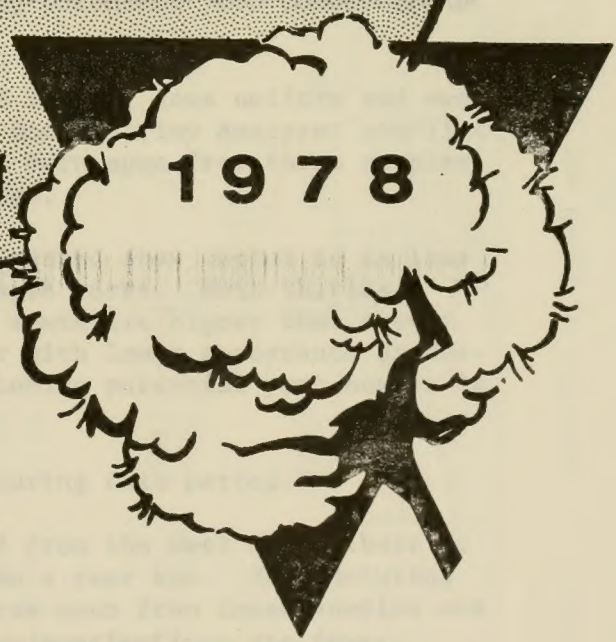
CROP of 1978



Agricultural Marketing Service
U.S. DEPARTMENT OF AGRICULTURE
Memphis, Tenn. 38122 February 9, 1979

This is the last report for the 1978 crop. These reports were published bi-weekly during the harvesting season and will be summarized in a comprehensive report at the end of the crop year. A detailed description of the tests shown in this report may be found in the summary report for the previous season.1/ These reports are available on request from the Standards Section, Cotton Division, Agricultural Marketing Service, U.S. Department of Agriculture, 4841 Summer Avenue, Memphis, TN. 38122.

1/ Summary of Cotton Fiber and Processing Test Results, Crop of 1977, USDA, AMS, Cotton Division, August 1978.

COTTON FIBER AND PROCESSING TEST RESULTS, CROP OF 1978

Discussion of Test Results

Cottons tested from the Southwest through February 2 in the short staple range are shorter, less uniform and finer than a year ago, according to the Cotton Division, Agricultural Marketing Service, USDA. Fiber strength is weaker at zero gage strength tests. Both Shirley Analyzer non-lint content and picker and card waste are higher than last season. Yarns spun from these samples are weaker, but have higher appearance grades. Yarn imperfections are lower. The spinning potential yarn number is lower.

Southeast medium staple samples tested to date show fibers to be longer, finer and stronger than a year ago. Shirley Analyzer non-lint content is higher while picker and card waste is lower than last season. Yarns spun from these samples are stronger with lower imperfections. The spinning potential yarn number is higher.

South Central medium staple samples show fibers to be shorter and stronger at zero gage strength tests than a year ago. Picker and card waste is higher. Yarns spun from these samples are weaker, but have lower imperfections. The spinning potential is lower.

Medium staple samples tested to date from the Southwest are considerably shorter, less uniform and stronger at zero gage strength tests than a year ago. Both Shirley Analyzer nonlint content and picker and card waste are higher. Yarns spun from these samples are weaker with lower appearance grades. Imperfections are lower. The spinning potential yarn number is lower.

Medium staple samples tested from the West are longer, less uniform and weaker at 1/8" gage strength tests than a year ago. Both Shirley Analyzer non-lint content and picker and card waste are higher. Yarn spun from these samples have about the same yarn qualities as a year ago.

Average results for all medium staple samples tested show cotton to be less uniform, finer and stronger at zero gage strength tests. Both Shirley Analyzer non-lint content and picker and card waste are higher than a year ago. Yarns spun from these samples are weaker with lower appearance grades. Yarn imperfections are lower. The average spinning potential yarn number is lower.

No additional long staple lots were received during this period.

American Pima extra long staple samples tested from the West show fibers to be shorter, less uniform, finer and weaker than a year ago. Manufacturing waste was higher than last season. Combed yarns spun from these samples are stronger, with higher appearance grades. Yarn imperfections are fewer.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through February 2, 1979. 1/

Staple group Area, and Crop year	Lots tested	Fiber test results						Processing test results					
		Fibrograph		Mike fine-ness	Fiber strength		S A nonlint	P & C waste	Yarn quality			Spin. Potent.	
		2.5% span	50/2.5 unif.		Zero gage	1/8" gage			Skein str.	Appear-ance	Imperf-ections		
	No.	Inches	Pct.	Rdg.	Mpsi	G/tex	Pct.	Pct.	Lbs.	Index	No.		Yarn No.
									22s Carded Yarn				
Short Staple:													
Southwest													
1977	99	0.99	46	42	88	22	3.2	5.4	99	108	13	3/	49
1978	78	0.97	44	39	87	22	4.5	7.3	95	118	10	(16)	44
Medium Staple:													
Southeast													
1977	40	1.08	45	47	85	22	3.2	6.2	97	92	21	-	52
1978	36	1.10	45	45	86	23	3.5	6.0	108	92	15	(77)	58
South Central													
1977	123	1.11	45	46	86	23	3.5	6.0	104	95	22	-	57
1978	124	1.09	45	46	88	23	3.5	6.5	100	95	13	(55)	51
Southwest													
1977	48	1.08	46	42	86	22	3.2	5.7	103	90	19	-	54
1978	45	1.03	45	42	89	22	4.4	6.4	97	81	16	(77)	49
West													
1977	92	1.11	46	43	93	26	2.6	5.4	117	87	22	-	67
1978	93	1.13	45	43	93	25	2.9	5.7	116	85	21	(110)	66
Average													
1977	303	1.10	46	45	88	23	3.2	5.8	107	91	21	-	59
1978	298	1.10	45	44	89	23	3.4	6.2	106	89	16	(78)	56
Significant difference 2/		0.02	2	0.2	2	1	0.5	0.5	4(22s)	5	2		3

1/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table.
3/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 1.--Cotton: Averages of fiber and processing tests from selected gin points in the United States through February 2, 1979. 1/ (Continued)

Staple group, Area, and Crop year	Lots	Fiber Test Results: Length: Span	Length: Unif	Mike	Strength: Zero gage	Strength: 1/8" gage	SA Non-lint	Processing Test Results: P&C Waste	Comber Waste	Yarn Quality: Strength: carded	Strength: combed	Appearance: carded	Appearance: combed	Imprfctns: card	Imprfctns: comb	SPY
	No.	In.	Pct.	Rdg.	Mpsi	G/tx	Pct.	Pct.	Pct.	Lbs.	Lbs.	Indx	Indx	No.	No.	No.
										22s Carded & Combed Yarn						
Long Staple:																
Southeast																
1977	12	1.13	45	48	88	23	3.5	7.1	17.6	99	122	102	116	18	5	58
1978	15	1.12	44	44	85	24	3.4	7.7	16.6	111	128	106	126	12	3	59
South Central																
1977	3	1.16	45	45	92	24	4.3	7.2	18.0	106	128	97	113	24	6	63
1978	3	1.18	43	42	91	26	4.3	8.7	17.4	110	133	93	123	22	6	66
West																
1977	9	1.18	46	40	92	27	3.5	6.2	14.7	130	148	89	99	27	7	93
1978	6	1.14	43	37	88	25	3.6	8.5	17.5	116	138	90	112	27	10	73
Extra Long Staple:		AMERICAN PIMA ARRAY														
West											50's Combed Yarn					
1977	18	1.50	32	38	104	36	3.0	7.1	14.4		64		107		2	
1978	17	1.49	33	37	102	34	3.4	7.8	15.4		65		114		1	
Significant Difference 2/		0.02	2	0.2	2	1	0.5	0.5	0.5	4(22s)	4(22s) 2(50s)	5	5	2	2	3

1/ Based on a limited number of samples of modal quality
2/ Minimum differences considered to be significant for comparisons in this table.

Table 2 --Cotton, American upland short staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns										
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns Neps/M Yards		Spin. Poten-tial
No	Grade Name & Code	Stple	2.5% span	Unif		Zero Gage	1/8" Gage			Gra	Yel		8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	8s or 74 tx	22s or 27 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHWEST AREA																					
NORTHWEST TEXAS																					
BIG SPRING							NORTHERN STAR 5						75 PERCENT						1/	1/	
2 SLM LT SP	42	32	0.98	44	38	84	23	6.7	4.7	2	4	7.4	280	93	7.3	6.5	130	120	20 (0)	8 (18)	44
PLAINS							GSA71						70 PERCENT								
3 SLM LT SP	42	32	0.97	42	34	85	23	6.6	7.1	3	4	8.8	306	95	7.9	6.7	120	110	37 (4)	14 (14)	49
THROCKMORTON							LANKART 57						85 PERCENT								
1 SLM	41	32	0.97	45	37	82	21	7.6	3.5	2	4	4.8	282	91	7.9	7.1	120	130	18 (0)	7 (18)	46
TOKIO							GSA71						80 PERCENT								
2 SLM LT SP	42	32	0.98	43	33	83	23	7.0	6.5	3	3	8.9	298	98	8.4	7.6	120	120	24 (0)	8 (2)	48
3 SLM LT SP	42	31	0.96	43	33	82	22	6.9	6.6	2	4	8.6	271	91	7.4	6.7	130	110	27 (2)	10 (20)	43
TULIA							STRIPPER 31						75 PERCENT								
3 LM LT SP	52	30	0.94	46	44	85	21	6.5	7.0	3	3	9.2	252	82	6.7	6.3	120	110	22 (0)	8 (14)	31
WEINERT							LANKART LX571						80 PERCENT								
2 SLM LT SP	42	32	0.98	44	34	80	21	7.2	4.7	2	5	6.6	293	93	8.5	7.4	100	90	70 (12)	33 (46)	48
WINGATE							TAMCOT SP21						93 PERCENT								
3 LM	51	33	1.02	42	33	79	22	7.6	5.3	2	3	7.8	292	95	8.4	7.4	130	110	30 (0)	11 (14)	53

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Carded Yarns									
			Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns Neps/M Yards		Spin. Potential
No	Grade Name & Code	Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHWEST AREA																					
NORTHWEST TEXAS																					
BIG SPRING							TAMCOT SP37						70 PERCENT								
3 SLM LT SP	42	32	0.96	43	37	86	23	6.4	4.7	3	4	7.9	91 2/	29	5.6	5.0	80	60	29	(64) 1/ 15 (218) 1/	37
PLAINS							DUNN 119						90 PERCENT								
3 SLM LT SP	42	34	1.05	42	31	89	25	6.6	5.3	2	4	6.9	108	36	6.6	5.2	90	60	20	(38) 14 (246)	59
WEST AREA																					
ARIZONA																					
MOHAVE VALLEY							STONEVILLE 825N						90 PERCENT								
3 LM	51	32	0.99	39	33	88	21	5.0	5.9	2	2	6.6	73 2/	22	4.6	3.8	70	60	30	(116) 25 (500)	3/ 25
ROLL							DELTAPINE 61						90 PERCENT								
5 SLM	41	36	1.11	42	37	87	23	6.6	3.5	1	2	6.9	98	34	6.3	4.9	90	60	18	(56) 14 (390)	57
CALIFORNIA																					
CHOWCHILLA							ACALA SJ-4						75 PERCENT								
3 SLM	41	35	1.09	46	34	98	27	5.7	2.4	2	3	5.2	128	47	6.4	5.0	80	60	18	(80) 13 (326)	87
CHOWCHILLA							ACALA SJ-4						74 PERCENT								
3 SLM	41	36	1.11	47	39	99	27	5.4	2.6	2	3	4.8	129	47	6.5	5.3	80	70	20	(160) 17 (388)	86
COALINGA							ACALA SJ-2						90 PERCENT								
3 SLM	41	36	1.11	46	45	94	27	5.6	5.4	4	4	5.8	119	41	5.9	4.6	90	60	19	(118) 14 (416)	71
FIREBAUGH							ACALA SJ-2						100 PERCENT								
3 SLM	41	36	1.16	46	41	91	26	6.0	3.8	2	3	5.6	126	46	6.4	5.3	80	60	24	(180) 17 (414)	80
LOS BANOS							ACALA SJ-2						93 PERCENT								
3 SLM	41	36	1.13	47	43	95	28	5.6	4.0	2	3	6.0	121	43	6.0	4.8	70	60	29	(208) 18 (622)	73
WESTMORLAND							DELTAPINE 61						100 PERCENT								
4 SLM	41	35	1.06	41	37	91	23	5.8	3.7	1	2	6.1	99	31	6.0	4.3	80	60	21	(66) 16 (434)	48

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.
2/ End breakage too high to spin 50's yarn. 44's yarn spun and corrected to the equivalent of 50's.
3/ End breakage too high to spin the coarsest desired yarn number. Reported number is an estimated value below the range of the test.

Table 4--Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number			Fiber Test Results									Processing Test Results - Combed Yarns									
			Array Length		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns Neps/M Yards	
No	Grade Name & Code	Stple	UQL	CV		Zero Gage	1/8" Gage			Gra	Yel			50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx
		32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No
WEST		AREA																			
ARIZONA																					
SAFFORD							PIMA S-5						100 PERCENT								
3	5	46	1.48	33	37	102	35	7.8	5.2	4	6	9.0	14.0	63	33	6.1	5.2	110	110	1 (44) 1/	1 (154) 1/
TONOPAH							PIMA S-5						100 PERCENT								
3	4	46	1.48	31	41	103	37	6.9	2.3	3	4	7.0	13.5	68	35	5.6	4.8	120	120	0 (50)	1 (108)
NEW MEXICO																					
LAS CRUCES							PIMA S-5						100 PERCENT								
3	5	46	1.49	36	35	98	32	8.0	4.1	5	5	8.1	14.0	61	32	5.8	4.9	110	110	2 (74)	2 (172)
WEST TEXAS																					
EL PASO							PIMA S-5						100 PERCENT								
3	5	46	1.39	38	31	97	31	7.6	4.9	5	6	8.8	15.7	61	32	5.9	4.9	110	100	2 (74)	2 (194)

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

Table 3--Cotton, American upland medium staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number				Fiber Test Results										Processing Test Results - Carded Yarns										
				Digital Fibrograph		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Strength		Elongation		Appearance Index		Imprfect'ns Neps/M Yards		Spin. Potential
No	Grade Name & Code		Stple	2.5% span	Unif.		Zero Gage	1/8" Gage			Gra	Yel		22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	22s or 27 tx	50s or 12 tx	
			32s	In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No	No
SOUTHWEST		AREA																						
NORTHWEST TEXAS																								
BIG SPRING								TAMCOT SP37						70 PERCENT										
3	SLM	LT SP	42 32	0.96	43	37	86	23	6.4	4.7	3	4	7.9	91 2/	29	5.6	5.0	80	60	29	(64) 1/	15 (218) 1/	37
PLAINS								DUNN 119						90 PERCENT										
3	SLM	LT SP	42 34	1.05	42	31	89	25	6.6	5.3	2	4	6.9	108	36	6.6	5.2	90	60	20	(38)	14 (246)	59
WEST		AREA																						
ARIZONA																								
MOHAVE VALLEY								STONEVILLE 825N						90 PERCENT										
3	LM		51 32	0.99	39	33	88	21	5.0	5.9	2	2	6.6	73 2/	22	4.6	3.8	70	60	30	(116)	25 (500)	25 3/
ROLL								DELTAPINE 61						90 PERCENT										
5	SLM		41 36	1.11	42	37	87	23	6.6	3.5	1	2	6.9	98	34	6.3	4.9	90	60	18	(56)	14 (390)	57
CALIFORNIA																								
CHOWCHILLA								ACALA SJ-4						75 PERCENT										
3	SLM		41 35	1.09	46	34	98	27	5.7	2.4	2	3	5.2	128	47	6.4	5.0	80	60	18	(80)	13 (326)	87
CHOWCHILLA								ACALA SJ-4						74 PERCENT										
3	SLM		41 36	1.11	47	39	99	27	5.4	2.6	2	3	4.8	129	47	6.5	5.3	80	70	20	(160)	17 (388)	86
COALINGA								ACALA SJ-2						90 PERCENT										
3	SLM		41 36	1.11	46	45	94	27	5.6	5.4	4	4	5.8	119	41	5.9	4.6	90	60	19	(118)	14 (416)	71
FIREBAUGH								ACALA SJ-2						100 PERCENT										
3	SLM		41 36	1.16	46	41	91	26	6.0	3.8	2	3	5.6	126	46	6.4	5.3	80	60	24	(180)	17 (414)	80
LOS BANOS								ACALA SJ-2						93 PERCENT										
3	SLM		41 36	1.13	47	43	95	28	5.6	4.0	2	3	6.0	121	43	6.0	4.8	70	60	29	(208)	18 (622)	73
WESTMORLAND								DELTAPINE 61						100 PERCENT										
4	SLM		41 35	1.06	41	37	91	23	5.8	3.7	1	2	6.1	99	31	6.0	4.3	80	60	21	(66)	16 (434)	48

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.
2/ End breakage too high to spin 50's yarn. 44's yarn spun and corrected to the equivalent of 50's.
3/ End breakage too high to spin the coarsest desired yarn number. Reported number is an estimated value below the range of the test.

Table 4--Cotton, American Pima extra long staple: Quality characteristics by production areas, crop of 1978.

Production Area, Classification & Sample Number				Fiber Test Results									Processing Test Results - Combed Yarns									
				Array Length		Mike	Fiber Strength		Elon-gat'n 1/8"	S.A. Non-Lint	Color Raw Stock		P & C Waste	Comber Waste	Strength		Elongation		Appearance Index		Imprfect'ns Neps/M Yards	
No	Grade Name & Code	Stple		UQL	CV		Zero Gage	1/8" Gage			Gra	Yel			50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx	50s or 12 tx	80s or 7 tx
		32s		In	Pct	Rdg	Mpsi	G/tex	Pct	Pct	No	No	Pct	Pct	Lbs	Lbs	Pct	Pct	No	No	No	No
WEST		AREA																				
ARIZONA																						
SAFFORD								PIMA S-5						100 PERCENT								
3	5	46		1.48	33	37	102	35	7.8	5.2	4	6	9.0	14.0	63	33	6.1	5.2	110	110	1 (44) 1/	1 (154) 1/
TONOPAH								PIMA S-5						100 PERCENT								
3	4	46		1.48	31	41	103	37	6.9	2.3	3	4	7.0	13.5	68	35	5.6	4.8	120	120	0 (50)	1 (108)
NEW MEXICO																						
LAS CRUCES								PIMA S-5						100 PERCENT								
3	5	46		1.49	36	35	98	32	8.0	4.1	5	5	8.1	14.0	61	32	5.8	4.9	110	110	2 (74)	2 (172)
WEST TEXAS																						
EL PASO								PIMA S-5						100 PERCENT								
3	5	46		1.39	38	31	97	31	7.6	4.9	5	6	8.8	15.7	61	32	5.9	4.9	110	100	2 (74)	2 (194)

1/ Parentheses indicate the neps per 1000 yards of yarn as measured by the Uster instrument.

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